Office of the Chief Information Officer
Strategic Information Technology Plan
FY 2005 – FY 2010

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EXECUTIVE SUMMARY

The mission of the Office of the Chief Information Officer (OCIO), in support of the U.S. Patent and Trademark Office (USPTO), is *to provide quality information products and services for our customers*. In support of that mission, the Strategic Information Technology Plan links the OCIO's goals and objectives to the USPTO's 21st Century Strategic Plan to assure that the OCIO meets customer business needs using agile, productive, and innovative approaches. Additionally, the Strategic Information Technology Plan supports the USPTO's efforts to comply with the government-wide initiatives in the President's Management Agenda.

The **Introduction** to the Strategic Information Technology Plan provides a general view of the OCIO's mission, vision, and principles and how they position the USPTO to face key challenges, including the move to the new Alexandria Headquarters, the growth in patent and trademark applications, increased business dependency on information technology, an increasingly remote workforce, and the need for international coordination. This section also provides an overview of the accomplishments to date and how the OCIO will build on these achievements in the future.

The **Strategic Goals and Objectives** sections describe the four strategic goals along with the specific objectives and tasks that support each of them. Goal 1, *Enable the USPTO to implement electronic government in its patent and trademark business areas to reduce paper handling and enhance business processes,* provides a focus for the development of innovative and agile services. Goals 2, 3 and 4 summarize the OCIO's commitment to operational excellence and to a clear linkage between business processes and technology. Goal 2 is to *Provide and support a world-class information technology operation that meets or exceeds end-user needs.* Goal 3 is to *Leverage enterprise architecture to improve information technology efficiency, effectiveness, and quality,* simplifying and unifying through initiatives such as high availability architecture. Goal 4 is to *continuously improve the delivery of OCIO information products and services to meet USPTO business objectives.*

The OCIO strategic goals represent a five-year blueprint for implementing USPTO's information technology that supports its mission. The **Conclusion** summarizes a longer-term vision of the USPTO as those plans come to fruition. By 2010, the OCIO's internal and external customers will interface with a quality-focused, highly productive, responsive organization meeting and exceeding customer requirements through continuous improvement of products and services. Initiatives in support of electronic government (e-Government) will have reduced reliance upon, and in some cases eliminated, inefficient paper processes. Electronic communication of applications and documents with applicants will occur seamlessly, facilitated by an integrated customer-facing government-to-business and government-to-citizen electronic government approach that brings the USPTO closer to its customers and stakeholders.

INTRODUCTION

The mission of the U.S. Patent and Trademark Office (USPTO) is to ensure that the intellectual property system contributes to a strong global economy, encourages investment in innovation, and fosters entrepreneurial spirit. The intellectual property climate is fast moving, complex, and increasingly international in nature. To meet these challenges, the USPTO's Office of the Chief Information Officer (OCIO) has developed the Strategic Information Technology Plan (SITP) broadly focused on the themes set forth in the USPTO's 21st Century Strategic Plan – agility, capability, and productivity. In order to support the USPTO's 21st Century Strategic Plan, the OCIO, like the USPTO, must transform itself into *a quality-focused, highly productive, responsive organization supporting a market-driven intellectual property syste*m.

The USPTO recognizes that its products and services help to drive technological advancement, an engine of the economy. Patent rights provide their owners, corporate and individual, a powerful incentive for making substantial investments in research and development and for accepting the significant risks inherent in starting new businesses. Registering trademarks and disseminating trademark information allows trademark owners to market products under protected names, thereby decreasing confusion for consumers and increasing equity for companies. Information contained in patents and trademarks represents an extraordinary collection of technological and business resources, much of which is not available from other sources. Dissemination of this data allows researchers to understand and build on new technologies disclosed through the patent process and encourages the incorporation of patented inventions into commercially manufactured products. Every week, tens of thousands of individuals make economically significant decisions based on the information disclosed in patent and trademark records. The USPTO is pursuing a strategic plan that supports economic growth by improving the delivery of intellectual property services that meet the business needs of internal and external customers, in part, with increased technological capabilities.

A key purpose of this SITP is to tightly couple the OCIO's goals and objectives to the USPTO's strategic vision to assure that the OCIO meets customer business needs using agile, productive, and innovative approaches. This is a world in which market forces drive the OCIO's strategy via workforce management and a commitment to internal and external customers backed by service level agreements and service goals. Quality and cost control are achieved by the simplification and unification of processes and technology. A rigorous capital investment planning approach is used, and operations are executed based on a business model that utilizes balanced scorecard performance management. As a result, the OCIO will support the USPTO in transforming itself into a quality-focused, highly productive, responsive organization supporting a market-driven intellectual property system.

INFORMATION TECHNOLOGY AND THE USPTO'S 21ST CENTURY STRATEGIC PLAN

The OCIO's SITP focuses on the themes set forth in the USPTO's 21st Century Strategic Plan and addresses the areas in which information technology will play either a primary or enabling role in carrying out the mission and vision for the USPTO.

Agility: Address the 21st Century Economy by Becoming a More Agile Organization

The OCIO will directly enable the USPTO to become a more agile organization, particularly through IT transformation services that are founded on a flexible enterprise architecture for application processing. These e-Government initiatives as a whole will provide secure and robust electronic end-to-end processing of both patents and trademarks. The OCIO will also play a major enabling role for flexible workforce environments by providing the necessary infrastructure and connectivity to key USPTO systems. Through technology sharing and joint development efforts, the OCIO will support the strategic effort to strengthen and simplify access to intellectual property rights around the world through international cooperation and electronic information dissemination.

Capability: Enhance Quality through Workforce and Process Improvements

As core competency needs to evolve due to increased reliance on information technology and the outsourcing of services, as well as eventual workforce retirements, the federal government is placing greater emphasis on the need to recruit, retain, and train the right people. This is also true for the USPTO. In response, the OCIO will support this evolving workforce by providing an advanced infrastructure and tools that support hiring and development. The OCIO will continue to address quality through workforce and process improvements, such as improving life cycle management within the OCIO and enhancing architecture to promote a high return on investments in information technology.

Productivity: Accelerate Processing Times through Focused Examination

By using advanced information technology tools for internal and external customers, the OCIO will support increased productivity. The e-Government initiatives, as defined in the USPTO's 21st Century Strategic Plan, will be instrumental in reducing latency in the patent and trademark application pipeline, thereby helping to achieve the USPTO's ambitious business goal of reduced pendency.

OCIO MISSION, VISION, AND PRINCIPLES

The OCIO mission is *To provide quality information products and services for our customers*. In support of that mission, the OCIO pursues a clear vision: *We deliver information excellence that fuels the economy*. Our principles of *Commitment to Our Values*, *Simplification*, and *Results Oriented*, detailed below, are embedded in the activities that we perform in carrying out our mission.

Commitment to Our Values – The OCIO is committed to its values and seeks to continue to incorporate them into the culture of the organization. The OCIO values include the following.

- *Valuing Employees* – We support our employees' need to balance their personal and professional aspirations. We treat each other with dignity, respecting individual and cultural differences. We communicate frequently and with candor, listening to each other regardless of level or position.
- *Teamwork* – We are committed to working together and communicating with one another to live the mission and achieve the vision.
- *Integrity* – We are honest and ethical in all that we do. We keep our promises and learn from our mistakes.
- *Responsiveness* – We do what needs to be done and when it needs to be done.
- *Quality* – We focus on improving our process, products and services.

Simplification – The OCIO will seek to consolidate its systems and processes through a streamlined enterprise architecture, revised life cycle management procedures for system development, enhanced world-class operations of information technology resources, and rigorous capital planning and investment control procedures and governance that will help identify project priorities and retire obsolete systems.

Results-Oriented – The OCIO will focus on results by understanding how information technology impacts business drivers, measuring the performance through a balanced scorecard model aligned with the USPTO's performance goals and measures, and managing the performance to meet service level agreements, service goals, and the overall agency goals. The OCIO is building a workforce program to improve management skills, provide adequate skills management, and instill performance management best practices.

CHALLENGES AND KEY DRIVERS FACING THE USPTO

The USPTO faces a number of significant challenges in carrying out its mission. The major challenges and key drivers are summarized below.

Growth in Patent and Trademark Applications and Storage Requirements – The USPTO stores 30 million gigabytes of data, an amount that continues to rise steadily. Currently, the agency receives annually over 375,000 patent applications, some of which can run to millions of printed pages, and nearly 250,000 trademark applications. The number of applications has been steadily increasing, averaging around 5 percent annually. As a result, the USPTO has seen storage needs grow between 25 percent and 40 percent in each of the past five years. As the business model changes to rely on image files as the official document for application prosecution, more information will need to be processed electronically and the storage requirements will rise even faster.

Increased Business Dependency on Information Technology – As the USPTO transitions to end-to-end electronic processing of patent and trademark applications, the digital representation of files become the document of record. This adds another element of importance to the underlying systems that store and process this information. With this operating model, system down time can cause serious disruptions to business operations and be very costly to the USPTO. To minimize this potential impact, a highly available information technology infrastructure,

applications, and data are needed. In addition, security concerns such as privacy, data integrity, and non-repudiation of business transactions become critical to successfully executing end-to-end electronic application processing.

International Coordination – Due to the global scope of the intellectual property issues, the USPTO has made a strategic decision to coordinate with international intellectual property offices to support its customers and stakeholders. This is becoming more important as the economy becomes more global and intellectual property rights are increasingly established and defended internationally. The challenges include establishing data standards to promote electronic information sharing and aligning technology with evolving legal frameworks and business models. The USPTO will coordinate and facilitate the sharing of patent data among its global intellectual property office partners and the World Intellectual Property Organization to ensure consistency of standards and global interoperability of patent systems.

Increasingly Remote Workforce – The work-at-home initiatives and other flexible work schedules are causing the workforce to be increasingly remote and create further challenges in providing information technology infrastructure support. The primary issue is that much of the remote workforce requires access to complex applications across a wide area network. One of the greatest challenges to enhancing the work-at-home environment is that most applications used by participants must be accessed across the wide area network, as opposed to office access to applications through the faster local area network. Therefore, even the upgraded primary link provided cannot compensate for the decreased speed of data transmission provided across the wide area network. Even with high-bandwidth remote access, wide area network speeds can be as low as 10% of a local area network, which presents complications when running applications across a wide area network. In addition, issues such as security, access control, and end user support all become more difficult to manage as more users are operating outside the physical network.

Technology Obsolescence Cycles – The fast pace of information technology advancements often shortens the life cycle of systems, requiring updates that are more frequent. Examples of this include:

- Continuous software upgrades;
- Replacement of servers, desktops, network devices, and storage equipment to minimize total cost of ownership; and
- Continually training and retraining personnel to keep up with the rapid evolution of technology.

OVERVIEW OF STRATEGIC INFORMATION TECHNOLOGY PLAN FRAMEWORK

The OCIO has identified the following goals as the major strategic directions to support the information technology vision for the USPTO. The OCIO has also identified the objectives and specific tasks necessary to implement each of these goals listed below in order of importance.

Goal 1 is to ***Enable the USPTO to implement electronic government in its patent and trademark business areas to reduce paper handling and enhance business processes***. E-Government is important to USPTO, not only because it has been federally mandated, but more importantly because it promises to bring USPTO closer to its customers and stakeholders and improve operational efficiency.

Goal 2 summarizes our commitment to operational excellence: ***Provide and support a world-class information technology operation that meets or exceeds end-user needs*** based on a balance between level of service and cost**.**

Goal 3 summarizes our strategic imperative to improve the linkage between business processes and technology: ***Leverage enterprise architecture to improve information technology efficiency, effectiveness***, ***and quality,*** simplifying and unifying through initiatives such as a high availability service architecture**.**

Goal 4 is to ***Continuously improve the delivery of OCIO information products and services to meet USPTO business objectives.*** This goal focuses on long-range improvements in execution of the OCIO operations.

ACHIEVEMENTS TOWARD THE STRATEGIC GOALS

Recently the OCIO has made significant achievements toward realizing the strategic goals outlined above. Many of these successes are described in the paragraphs below with an identification of the SITP goals that each one supports.

Migration to E-Government (supporting Goal 1) – In FY 2004 the Image File Wrapper (IFW) system was fully implemented and both the private and public Patent Application Information Retrieval systems (PAIR) were enhanced with the inclusion of IFW data, enabling the electronic processing of patent application data. The private PAIR system allows applicants access to the entire file history of their applications, including images, of every paper of record if their application is in the IFW database. In addition, the public PAIR system allows access to the entire file history (except for non-patent literature) and application images, if available in IFW, of an application not covered by confidentiality laws, via the Internet.

Enterprise Architecture (supporting Goal 3) – The Department of Commerce (DOC) launched an e-form database that contains all of its electronic forms at the website www.forms.gov. This is the public portal for accessing all government citizen-facing forms. The USPTO provided metadata to the Office of Management and Budget (OMB), Small Business Administration (SBA), and General Services Administration (GSA) team under the Business Gateway Initiative of the President's Management Agenda (PMA). The OCIO completed and entered 220 USPTO electronic forms into the SBA e-Form database.

With these initial achievements as a foundation for USPTO's efforts to support economic growth by improving the delivery of intellectual property services, the OCIO is well positioned to meet the technical and organizational challenges it currently faces, and deliver on its strategic goals

and objectives. In the long term, the strategic goals will come together to implement a vision of continuously improving operations supporting a comprehensive enterprise architecture. The result will be an OCIO that is a quality-focused, highly productive, responsive organization, supporting the USPTO's vision in the 21st Century Strategic Plan. This is an ambitious agenda requiring the focused energy and talents of the OCIO personnel, aligned toward achieving the strategic goals outlined in this plan.

STRATEGIC GOALS AND OBJECTIVES

The goals and objectives of the Office of the Chief Information Officer outlined in this Strategic Information Technology Plan describe the strategies employed by the U.S. Patent and Trademark Office to address 21st century business needs. These goals are as follows:

- Strategic Goal 1: Enable USPTO to implement electronic government in its patent and trademark business areas to reduce paper handling and enhance business processes.
- Strategic Goal 2: Provide and support a world-class information technology operation that meets or exceeds end-user needs.
- Strategic Goal 3: Leverage an enterprise architecture to improve information technology efficiency, effectiveness, and quality.
- Strategic Goal 4: Continuously improve the delivery of OCIO information products and services to meet USPTO business objectives.

These goals and the supporting objectives are focused on enhancing business efficiency and effectiveness, as well as improving service and communication with internal and external end users.

STRATEGIC GOAL 1: ENABLE THE USPTO TO IMPLEMENT ELECTRONIC GOVERNMENT IN ITS PATENT AND TRADEMARK BUSINESS AREAS TO REDUCE PAPER HANDLING AND ENHANCE BUSINESS PROCESSES.

Strategic Goal 1 -

1.1. Develop a Trademark electronic file management system, including support for the Madrid Protocol, and Electronic Government operations [E-Government 1].
1.2. Deliver an operational system to process patent applications electronically [E-Government 2].
1.3. Continue an information technology security program for fully certifying and accrediting the security of every automated information system [E-Government 4].
1.4. Continue to enhance technology capabilities of automated information systems and infrastructure to provide external access to USPTO automated information systems in a secure, controlled manner.
1.5. Integrate automated information systems to support the electronic workflow of a post-grant document review process [E-Government 3].
1.6. Modernize financial management systems in accordance with E-Government initiative.

The workload of the USPTO has been growing steadily due to the increased number and complexity of applications and this trend is expected to continue in the future. In response, business processes must evolve from paper-based to e-Government interactions to be cost-effective and time-efficient for both internal and external users of information technology. Facilitating the transition to an e-Government environment is the top OCIO priority and includes the planning, design, development, maintenance, oversight, and management of web-based business applications. Implementing e-Government addresses the technological needs of USPTO patent and trademark businesses, including all business areas touching patent and trademark applications, to facilitate decreased reliance on paper-based, physical processing and review of application file contents to streamline operations. As the USPTO enhances its e-Government

systems, the OCIO will continue to provide a secure environment for conducting business with the USPTO and enhance technological capabilities to encourage alternative work arrangements.

Objective 1.1 Develop a trademark electronic file management system, including support for the Madrid Protocol and Electronic Government operations [E-Government 1].

The Trademarks business unit, supported by the OCIO, has been implementing e-Government systems and processes for the last 10 years as part of a business-reengineering plan aimed at moving away from paper-based processes. The move to full electronic operations will culminate in FY 2005 with deployment of the First Action System for Trademarks (FAST).

The Madrid Protocol was implemented in November 2003 with the migration to Trademark e-Government. The Madrid Protocol enables the trademark systems to exchange data with the International Bureau of the World Intellectual Property Organization (WIPO). The interface requires the completion of the Madrid International Trademark Electronic Application Submission system to facilitate text and image data exchange. The USPTO will deploy the Madrid International Trademark Electronic Application Submission (MiTEAS) system through phased implementation. The phased implementation will be concurrent with the completion of the Madrid International Trademark Electronic Application Submission application forms. This approach will ensure that the inbound and outbound transactions of the Trademark Madrid System will interface with other trademark systems that are compliant with the Madrid Protocol. It is the USPTO's goal to leverage the Madrid-compliant e-filing capability to promote the sharing of the e-filing system with its global partners and to transform trademark transactions and operations entirely into an electronic environment.

In addition, the phased implementation of the Trademark Trial and Appeal Board Information System (TTABIS) will create an electronic workflow at the Trademark Trial and Appeal Board in compliance with the tracking, reporting, and communication requirements of the Madrid Protocol. Another tool that will improve workflow for the Trademark Trial Appeal Board is the First Action System for Trademarks (FAST). Version 2.0 of First Action System for Trademarks will provide actual integration of the components of the trademark application process with automated workflow that is consistent with the USPTO enterprise architecture.

The tasks that support this objective are as follows:

Tasks for Objective 1.1	Status
- Develop initial high-level architecture.	*Completed*
- Complete FAST 2.0 planning and analysis, including validation of user requirements and updating of Detailed Design.	*In Process*
- Complete initial MiTEAS forms in current architectural environment.	*In Process*
- Complete pilot test MiTEAS forms within an alternative architecture.	*In Process*
- Complete coding, integration, and testing of Madrid Transactions, including combinations.	*In Process*

Tasks for Objective 1.1	Status
- Complete planning and analysis for TTABIS.	*In Process*
- Decision on architectural environment for MiTEAS forms.	*Planned*
- Complete the remaining MiTEAS forms.	*Planned*
- Complete coding integration, and testing of TTABIS.	*Planned*

Objective 1.2 Deliver an operational system to process patent applications electronically [E-Government 2]

In order to realize inherent efficiencies in the digital world, both from a customer and from internal USPTO operational perspective, delivering integrated patent systems and workflow tools is imperative. Delivery of services that supports electronic correspondence to and from customers promises significant benefits for customers and the USPTO. Enhancing the electronic processing options is an important step in building the e-Commerce highway at the USPTO. Future enhancements to the patent systems are predicated on the deployment of patent processing systems that will enable USPTO to migrate to electronic file formats such as Portable Document Format (PDF). This file format will enhance processing and tracking capabilities for the USPTO and its customers.

The OCIO implemented an end-to-end electronic pipeline for the processing of patent applications that will eliminate inefficient paper-based processes that is consistent with the e-processing strategy and the USPTO's 21st Century Strategic Plan. The Patent business unit, in coordination with the OCIO, has developed a phased implementation plan that will provide a base document management and work routing system to electronically manage patent application documents by September 2010. This plan will ensure an operational pipeline to capture and process patent applications electronically to improve the integration and workflow of patent processing applications. The integration efforts of systems will enhance key features, including formulation of reports, information transferring, scanning of documents and images, and technical support for the systems. Equally important are the workflow tools that will leverage pdf technology, facilitate daily workflow tracking of patent applications, provide patent application status reporting, and other capabilities.

A key component of the integration and workflow approach is the Patent File Wrapper (PFW). The PFW is an electronically stored image of the paper application file. The deployment of PFW includes the use of European Patent Office's (EPO) ePhoenix software. Implementing the PFW system is enabling the USPTO to pursue collaborative information technology development with the EPO. The PFW system stores images of file contents, which will be integrated with other systems to allow for electronic processing of patent applications, as well as provide image management technology and workflow capability.

The patent applications in the PFW system serve as the office copy and legal record of the application, which increases file wrapper integrity, and eliminates lost paper files. The electronic processing pipeline enhances system capabilities to provide end-to-end electronic processing of

applications from authoring to filing to publication while ensuring global interoperability of the system. The PFW system functionality will also increase customer access to patent information, including enabling applicants to file patent applications and other correspondence electronically. It also provides a means for examiners to send outgoing correspondence to applicants electronically, providing the public with secure access to the data via the Internet, and facilitates walk-up public access. The private PAIR system allows applicants access to the entire file history of their applications, including images, of every paper of record if their application is in the IFW database. In addition, the public PAIR system allows access to the entire file history (except for non-patent literature) and application images, if available in IFW, of an application not covered by confidentiality laws, via the Internet.

Important to patent operations is the search capabilities that enable USPTO and customers to access patent data in an efficient manner. The search functionality supports the way in which data is processed for viewing through prior art support. Prior art support features will provide needed functionalities, including acceleration of reviewing search results, implementation of Automated Routing Tool (ART), ability to search patent application text, examiner access to translations of foreign patent documents, and other capabilities.

In addition, the next generation of patent processing systems is expected provide advancements which includes: (1) examiner access to text through the electronic Desktop Application Navigator (eDAN); (2) delivery of images to publication contractor through electronic connection; (3) automated classification for initial routing; and (4) automated support of formalities review. Scanning, displaying, and printing patent applications in color may also be feasible.

The tasks that support this objective are as follows:

Tasks for Objective 1.2	Status
- Continue to integrate legacy systems to existing patent processing systems.	*Ongoing*
- Complete deployment of PFW to all tech centers and Patent Business areas.	*Completed*
- Implement high availability of PFW infrastructure.	*In Process*
- Ensure that the PFW AIS's in production are operational, responsive, and aligned with business operations.	*In Process*
- Enhance soft-scanning capability of patent processing system.	*In Process*
- Monitor and document the changes that occur from deployment of IFW to the business processes at the Patent Office.	*In Process*
- Integrate Re-Examination Applications into the PFW business process.	*In Process*
- Enable patent examiners with improved access to patent information by enhancing eDAN.	*In Process*
- Ensure the migration of patent processing systems to fully support PDF electronic format.	*In Process*

Tasks for Objective 1.2	Status
- Develop Patent Enterprise Access Integration (PEAI) to support access to electronic file wrappers of published patent applications and granted patents.	*In Process*

Objective 1.3 Continue an information technology security program for fully certifying and accrediting the security of every automated information system [E-Government 4].

As the OCIO further develops the USPTO e-Government environment, it is imperative that internal and external users of USPTO systems be confident that the information contained in AIS's and information in transit is secure. The need to conduct business transactions electronically and the availability of patent and trademark information electronically greatly increase the risk of attack and intrusion into the USPTO's architecture, network, databases, and data repositories. It is because of these risks that a strong information technology security program is of central importance to ensuring that there is minimal disruption to business operations. To strengthen information technology security, the OCIO has developed an enterprise-wide IT security program that focuses on the certification and accreditation of all USPTO AIS's at a minimum of every three years, in conjunction with compliance testing and self-assessments of AIS's. The certification and accreditation activities will meet the Federal Information System Management Act (FISMA) requirements. User awareness security training for all employees and contractors is also held every year.

The OCIO uses independent resources to assure that all AIS's are certified and accredited in a timely manner. Successful implementation of firewalls, public key infrastructure (PKI), incident handling procedures, and intrusion detection on local network segments and certification and accreditation procedures testify to the OCIO's commitment to information system security. The most recent report from the Department of Commerce Independent Federal Information Security Management Act Evaluation, 0SE-16146, page 8, cites "We reported in last year's evaluation that the Director of USPTO has made a commitment to protect the business information assets; the certification and accreditation program, under the leadership of USPTO's CIO, confirms this commitment."

The tasks that support this objective are as follows:

Tasks for Objective 1.3	Status
- Provide user awareness training to all USPTO employees on an annual basis.	*Ongoing*
- Certify and accredit AIS's.	*Ongoing*
- Align USPTO Security Policy with Federal guidance.	*Completed*
- Develop and implement IT Security training program.	*Completed*
- Complete National Institute for Standards and Technology self-assessments.	*Completed*
- Update OCIO Technology Standards and Guidelines (TSG's) for IT security.	*Completed*
- Update and consolidate USPTO Firewall.	*Completed*
- Implement PKI / Smartcard physical access.	*Completed*

Tasks for Objective 1.3	Status
- Inspect contractor IT systems security control, including those operated by contractors at their own facilities as required by FISMA.	*Completed*
- Integrate consolidated auditing for security events as required by FISMA.	*In Process*
- Deploy PKI / e-Authorization system access.	*In Process*
- Maintain compliance testing plan, including Security Test and Evaluation methods, system audits, and vulnerability testing, as part of the certification and accreditation work stream.	*In Process*

Objective 1.4 Continue to enhance technology capabilities of automated information systems and infrastructure to provide external access to the USPTO automated information systems in a secure controlled manner.

In the recent years, the USPTO has witnessed increasing demand for increased agility and capability in its infrastructure to provide secure access to its internal resources from external environments. The three main constituent groups who are driving this demand are the USPTO employees, particularly Patents and Trademark examiners who wish to telecommute, USPTO contractors/vendors who provide AIS development, and the global intellectual property office partners. These include the World Intellectual Property Office (WIPO), the Japanese Patent Office JPO) and the European Patent Office (EPO), with whom the USPTO is continually increasing its commitment to coordinate and facilitate electronic information sharing.

The convergence of these three groups' distinct external access requirements, each with considerable complexities in its own right, compounds the overall complexities of addressing the divergent external access requirements. An enterprise approach to secure and remote access to USPTO resources is a solution that can address the divergent requirements. Such an enterprise approach to architect, design and implement a secure remote access solution, which provides a common framework to accommodate the disparate external access requests, provides the cost-avoidance benefit derived from the expected scale of economy factor sometime into its steady-state lifecycle.

For the first of the external access requirements group, the USPTO employees, there currently exist two Work-at-Home programs, which provide some of its employees with telecommuting options as required by Public Law 106-346 while simultaneously managing the workforce within space constraints at USPTO facilities. The nationally recognized Trademark Work-at-Home (TW@H), and the Trademark Trial and Appeal Board Work-at-Home (TTAB Work@Home) program have provided tangible benefits, such as increased employee satisfaction and retention through telecommuting opportunities, and cost savings from workspace sharing arrangements for those who primarily work from home.

For the second of the external access requirements group, USPTO vendors/contractors, a Secure External Access Solution (SEAS) project was established in FY 2004 to migrate the various one-off vendor/contractor network connectivity solutions onto a consolidated and centrally managed framework. The Data Center move driven by the Alexandria Headquarters relocation provided

further opportunities to complete the one-off vendor/contractor network connectivity solutions onto the SEAS framework.

For the third of the external access requirements group, the global intellectual property office partners, the Trilateral Network (TriNet) project has been, since 1998, providing secure network connectivity for the exchange of sensitive patent information between the Trilateral Partners and other subscriber organizations in the international intellectual property community. TriNet is used to exchange intellectual property information in the form of sensitive patent documents and facilitate international patent examination activities by making the various partners' internal search system available to authorized TriNet users. Although initially built upon an international private, frame-relay based, Wide Area Network (WAN), TriNet now utilizes the public Internet as the network media/carrier for cost savings and ensures security and privacy of data exchanges via Virtual Private Network (VPN) encryption technologies.

The USPTO intends to increase the agility and capability of its ability to service the external access requirements of the three constituent groups by merging the best practices of some of its current projects (TW@H and SEAS specifically) to provide a common framework to provide an Enterprise, Secure Remote Access solution. This common framework will leverage the USPTO infrastructure initiatives currently under way, such as the Enterprise Directory System (EDS), Public Key Infrastructure for USPTO, Firewall Consolidation Effort, SEAS, Security Policy Development, TW@H, TTAB Work@Home, and Image File Wrapper/Patent Enterprise Access Integration (PEAI) Remote Access.

The tasks that support this objective are as follows:

Tasks for Objective 1.4	Status
- Perform load testing prior to production deployment to simulate anticipated work volumes using new applications First Action System for Trademarks (FAST) and Madrid MiTEAS on TWAH server clusters.	*In Process*
- Design replacement hotel reservation system that will provide greater system scalability to facilitate the addition of new users to the program. Trademark personnel that are in the TW@H program utilize the hotel reservation system.	*In Process*
- Deploy laptops to users in the TW@H program that live 60 or more miles from the office.	*In Process*
- Develop Secure External Access System (SEAS). SEAS will be the primary option for contractors that lack appropriate controls for remote access.	*In Process*

Objective 1.5 Integrate automated information systems to support the electronic workflow of a post-grant document review process [E-Government 3].

In preparation for the expected passage of patent post-grant review legislation requiring that the Board of Patent Appeals and Interferences (BPAI) decide all inter-partes proceedings in one calendar year, the OCIO plans to address the need for electronic filing and tracking of post grant reviews using an automated information system. It is envisioned that a post grant review

electronic filing system will support the workload generated by the anticipated increase in the demand for inter-partes proceedings upon the passage of the patent post-grant review legislation. The post grant review electronic filing system will enable automated workflow, including electronic filing of post-grant review requests, electronic tracking of post-grant review requests, and document text search and retrieval for USPTO users across multiple proceedings.

As a key component of electronic post-grant patent review process, the Board of Patent Appeals and Interferences Information System (BPAIIS) provides significant cost and labor savings by eliminating inefficient paper processes that currently require contractor support and the rental of storage space for files. All necessary review files would be consolidated into an electronic filing system, which will enable the USPTO to promote its flexi-place (work-at-home) program for Administrative Patent Judges and enhance its commitment to the retention of senior staff. A similar AIS, the Trademark Trial and Appeal Board Information System (TTABIS), is currently in use by the Trademark Trial and Appeal Board (TTAB). The likely release date for the new patent AIS would be in 2005, concurrent with the anticipated implementation of patent post-grant review proceedings.

The tasks that support this objective are as follows:

Tasks for Objective 1.5	Status
- Expand e-filing at TTAB, with capacity to handle petitions to cancel, notices of appeal and all filings relating to ex parte appeals by May 2004.	*Completed*
- Improve responsiveness to customers by developing a plan to issue TTAB orders and decisions by e-mail and to permit litigants before the TTAB to serve papers on their opponents by e-mail.	*Completed*
- Enhance search capabilities of TTAB Vue on-line docket system.	*Completed*
- Improve workflow at BPAI in the handling of inter partes communications by scanning all outside communications for interferences declared on and after June 1, 2002.	*In Process*
- Prepare for expansion of BPAI jurisdiction by developing e-filing and e-processing systems for inter partes proceedings at BPAI.	*In Process*
- Integrate the electronic handling of appeal communications at BPAI with the Patents electronic filing system.	*In Process*
- Implement additional enhancements to the TTABIS to improve workflow, automate institution of oppositions, and expand the links between TTABIS and Trademarks' automated information systems.	*Planned*

Objective 1.6 Modernize the financial management systems in accordance with E-Government initiative.

Sound planning and effective uses of the USPTO's resources are dependent on the availability of accurate financial data. Reliable financial information is important for providing corporate advisory services in the areas of budget interpretation, formulation, justification; financial accounting; planning and implementation of all fee setting and collection activities; and procurement activities. The versatility of these functions requires a financial management system that can accommodate these needs and workflows. This requirement involves a re-

architecture of the core financial transaction processing system to enable improved performance and future user enhancements.

Currently, the Core Financial System (CFS) provides support for the financial management requirements of the agency. The CFS consists of the financial accounting system (Momentum Financials), procurement system (Procurement Desktop), and a travel management system (Travel Manager). The USPTO recognizes the need to update financial systems with evolving technologies to meet the e-Government initiatives and improve USPTO's ability to comply with the legislative requirements in financial and procurement management.

As part of normal operations and maintenance of CFS Momentum Financials will be upgraded in FY 2005. The Internet Purchasing Application (IPA) and the Procurement Desktop (PD) will also be replaced to comply with the Section 508 legislative requirement. This replacement will facilitate e-Government goals and greatly increase the USPTO's ability to obtain the best business arrangements in acquiring goods and services.

To support the e-Government initiatives in the President's Management Agenda, the USPTO plans to implement Government-wide e-Travel by the end of FY 2006. Once implemented, the e-Travel initiative envisions an end-to-end travel service supporting activities ranging from planning, reservations, and authorizations to claims and voucher reconciliation. This vendor owned and operated commercial off the shelf application will replace our current travel software tool, Travel Manager. Integration of e-Travel to USPTO's Core Financial System and Momentum Financials will enable USPTO to record the financial impact of each transaction that will be a part of the e-Travel implementation.

Changes are also planned for the Revenue Accounting and Management (RAM) System. The RAM system serves as an interface to many other USPTO applications to obtain fee-related data. Most importantly, the RAM system is an important provider for achieving the USPTO e-Government initiatives. The RAM system is the "gateway" for collection of electronic payments at the USPTO Websites. Due to the rapid growth of e-Commerce at the USPTO over the past few years, the RAM system may need redesigning to accommodate this continued growth. Possible replacement options to the RAM system include moving away from a Cool-Gen platform to a java-based (J2EE) platform that would provide better scalability for e-Commerce growth and could potentially take RAM for internal USPTO users from a client/server application to a web-based application. In addition, the functional extensions for RAM will continue throughout FY 2008. These enhancements will support e-Commerce and improve accountability through interfaces with various USPTO systems such as Electronic Filing System (EFS), Patent Application Location Monitoring system (PALM), and First Action System for Trademarks (FAST). Other features for RAM will expand the number and type of USPTO products and services that customers can order over the Internet and satisfy Section 508 compliance.

The Enterprise Data Warehouse (EDW) provides meaningful information to USPTO managers for analysis and decision making purposes in areas such as productivity analysis and isolation of significant productivity factors, workflow analysis for reduced patent and trademark processing

cycle times, and technology trend and workload analyses for staffing and organizational structure decisions, and financial analysis for resource allocation decisions. The EDW currently obtains information from disparate systems and presents it a way that is significant to managers across the agency. To sustain these services, the long-term data warehouse activities include data quality engineering and introduction of data mining to discover patterns in the information and to conduct advanced data analysis. Employing these methodologies will (1) leverage the benefits of data sharing; (2) focus attention on data quality and data integration; and (3) provide strategic and tactical information for decision-making.

As the USPTO leverages new reporting technologies for EDW and other systems, one of the goals is to provide managers with a tool that enables integrated reporting while also providing dashboards and scorecards to measure metrics against strategic goals. The Office of Finance plans to upgrade the current version of Business Objects and leverage existing web portal technology to provide a powerful web query and performance management tool. This solution is envisioned to be a 'one stop shop' for consolidated reporting as well as goal management, collaboration, and analysis.

The enhancement activities for the USPTO financial management systems will help to improve customer service, workload management, data quality, and fiscal integrity. The ultimate objective is to expand USPTO's ability to participate in e-Government and paperwork reduction initiatives, increase compliance with Section 508, and augment existing automated acquisition capabilities. Achievement of these efforts will enable the USPTO to maintain high quality of financial information and acquire the goods and services necessary for its mission.

The tasks that support this objective are as follows:

Tasks for Objective 1.6	Status
- Support legislative fee change process by enhancing RAM business support capability.	*Completed*
- Implement e-Travel for USPTO as part of the President's Management Agenda for expanding e-Government.	*In Process*
- Enhance RAM to support the Patent File Wrapper (PFW) system.	*In Process*
- Ensure Section 508 compliance of all the sub-systems of the Core Financial System.	*In Process*
- Replace PD with Momentum Acquisitions and Related Modules.	*Planned*
- Implement Central Contractor Registration Database Interface.	*Planned*
- Develop a Proof of Concept for application architecture.	*Planned*
- Transition financial systems to service oriented architecture.	*Planned*

STRATEGIC GOAL 2: PROVIDE AND SUPPORT A WORLD-CLASS INFORMATION TECHNOLOGY OPERATION THAT MEETS OR EXCEEDS END-USER NEEDS.

Strategic Goal 2 - Objectives
2.1. Establish a world-class IT operation and customer support capability. 2.2. Decrease the potential for system outages and other errors. 2.3. Minimize the impact to business operations when system outages and other errors occur. 2.4. Efficiently and effectively operate USPTO information technology systems and environments.

In the increasingly electronic environment in which the USPTO functions, the provision and support of USPTO's world-class information technology systems is of high business importance. The OCIO's effort to establish a world-class IT operation and customer support capability focuses on providing timely service, high-quality products, and a level of excellence that continually surpasses customer expectations. Providing exceptional services to support an entirely electronic environment requires additional support staff as more demands are placed on the help desk and business centers from increasing number of users. It is also necessary to ensure that the support personnel are technically knowledgeable and skilled to attend to the rising demands. The OCIO will strive to provide unparalleled IT operations and support despite the new challenges from base budget reductions, hiring restrictions, and expansion of electronic government. To achieve this outcome, the automated information systems and supporting networks that drive business processes must be consistently operating with minimal system outages and other errors. The effort to ensure that these processes are meeting end-user needs is three-fold, consisting of preventative maintenance, communications, and system operations. The USPTO maintains and operates the production technical environment to minimize lost productivity due to system downtime, provide high availability, maintain the current business production environment, and improve and enhance current business and technology infrastructure. Communications and support are provided to assist users in resolving AIS and other technology problems and to educate users on the proper use of those systems.

Objective 2.1 Establish a world-class information technology operation and customer support capability.

The OCIO will establish a world-class IT operation defined as one that meets or exceeds all of its internal and external customers' requirements detailed in service level agreements and developed through personal customer relationships, as evidenced by unsolicited appreciation, survey instrument feedback, and independent validation and verification evaluations. Additionally, the determination and use of supporting metrics and best practice comparisons are other means by which the OCIO will gauge operational effectiveness and efficiency. These tools help to identify services required to meet business area needs while defining comprehensive strategies for service level agreements, commitment goals, service provider boundaries and constraints, and mechanisms for reporting performance. These actions help establish valuable communication between the customer and the service provider.

The insight gained by the OCIO assessing its services and products is critical for making informed decisions related to improving IT operations business processes. Specifically, this

review is integral for managing a world-class data center that takes full advantage of available technology for disaster recovery, continuity of operations, data replication, and data transfer.

The tasks that support this objective are as follows:

Tasks for Objective 2.1	Status
- Provide customers with electronic access to user guides and change notifications.	*Ongoing*
- Improve documentation, analysis, usage of critical problem notices, and root cause analysis data.	*Ongoing*
- Develop Services Model	*Completed*
- Conduct independent study of current services and customer satisfaction.	*Completed*
- Develop operational reports for analysis and ongoing focus.	*Completed*
- Establish website content management methodology and improve website server statistics program.	*Completed*
- Develop a comprehensive strategy for service level agreements.	*In Process*
- Map Services Model to Service Level Agreements	*In Process*
- Implement improvements based on the study results.	*In Process*

Objective 2.2 Decrease the potential for system outages and other errors, thereby reducing negative impacts to the business operations when system outages and other errors occur.

As user requirements for USPTO systems become more complex, requiring greater functionality and the need for 24x7 system performance, it is imperative that the technical environment support more complex business needs. The OCIO will support continual monitoring of system performance and preventative maintenance of system functionality that is essential to minimizing system downtime and other errors. The OCIO will also focus on decreasing the potential for system outages and errors for automated information systems, which support core business processes. In addition, the OCIO will focus on network management to ensure that PTOnet is operating at optimum level and is restored to acceptable service levels when an outage or degraded service level is detected. This dual focus will help minimize lost productivity since these operations impact most business operations. The OCIO will also continue to support database administration since it is vital to ensuring that end-users have the needed information. This will involve keeping current information systems operating through the design, installation, configuration, management, and maintenance of all database management software. The OCIO will also focus on the reduction and eventual elimination of all single points of failure in production systems and IT infrastructure to decrease the potential for system outages.

The tasks that support this objective are as follows:

Tasks for Objective 2.2	Status
- Reduce/eliminate single points of failure in production systems and within IT infrastructure components.	*In Process*

Tasks for Objective 2.2	Status
- Implement disaster recovery and continuity of operations for all USPTO AIS's and associated IT infrastructure.	*In Process*

Objective 2.3 Minimize the impact to business operations when system outages and other errors occur.

The OCIO will support end-user needs when system outages or other errors occur through timely, reliable, innovative, and cost-effective communications. Communications will focus on informing end users of system outages and expected time for restoration of services. The timely restoration of services is highly important to minimize the impact that service outages could have on business operations. To achieve this objective, the OCIO provides 24x7 operations and systems support coverage to address systems outages and other disruptions.

Support during system downtime and other assistance for end-users with technological difficulties are addressed with OCIO services including Help Desk, desktop support, and other problem resolution services. Increased reliance on information technology has amplified demand for Help Desk services to trouble-shoot and resolve or reassign problems. Demand for desktop services such as resolving desktop problems, moving, deploying, and surplusing desktop hardware, and repairing or replacing failed hardware has also increased. The level of service provided for these problem resolution services is stringently measured against best-practice service level agreements. The use of an asset and configuration management system enables the USPTO to manage its AIS-related assets in an optimal way by providing information on what and where specific assets are, which is vital to minimizing time required to resolve problems.

The tasks that support this objective are as follows:

Tasks for Objective 2.3	Status
- Provide improved problem resolution services.	*Ongoing*
- Implement an asset and configuration management system.	*Completed*
- Extend operations and systems support to eventually reach 24/7 coverage.	*In Process*

Objective 2.4 Efficiently and effectively operate USPTO information technology systems and environments.

Continuous, consistent operation of key information technology systems and environments provides the third facet of the OCIO's goal to provide a production technical environment that meets end user needs. This objective focuses on "keeping the trains running," which has always been a priority. Key operations that require continual monitoring include:

- *PTOnet* – Includes PKI operations support, firewall operations, enterprise-wide login services, domain services, file and network services, and the operation of servers that house commercial off-the-shelf (COTS) applications.

- *USPTO data center* – The data center provides information technology products and services to all USPTO employees, including a wide technological range of servers and related data storage systems that are available 24x7.
- *USPTO web services, Intranet, and Internet* – Provides support services such as web page design and creation, troubleshooting, recovery, and maintenance strategies for COTS applications designed to operate websites, and content management services.

These operations are supported by the OCIO with user administration services (such as password and login setup) and operational documentation (such as user guides). The USPTO intends to provide a high level of support for the continual operation of the production technical environment so that user needs are met, including high availability of USPTO systems and the provision of current information to users.

The tasks that support this objective are as follows:

Tasks for Objective 2.4	Status
- Provide improved automation services.	*In Process*
- Provide user guides and other documentation that will improve the user experience.	*In Process*

STRATEGIC GOAL 3: LEVERAGE ENTERPRISE ARCHITECTURE TO IMPROVE INFORMATION TECHNOLOGY EFFICIENCY, EFFECTIVENESS, AND QUALITY.

Strategic Goal 3 - Objectives
3.1. Develop an enterprise architecture program and standards based on industry best practices, compliant with the Federal Enterprise Architecture.
3.2. Provide maximum availability of computer systems to examiners, attorneys, the public, and other patent and trademark offices in the event of an outage [E-Government 5].
3.3. Enhance and simplify the technology infrastructure to support business operations in an electronic government environment (i.e., simplify and unify).
3.4. Develop interoperability standards for data exchange with international partners, dissemination of intellectual property information, and system-to-system communications.

The Enterprise Architecture (EA) describes the relationships between the work the USPTO does, the information the agency uses, and the information technology (IT) the agency employs. Consequently, the EA provides the blueprints that form a master plan for ensuring the integrity and effectiveness of IT solutions. By aligning the requirements for IT with the USPTO's business processes, the OCIO will use the EA to make it easier to share information internally and to reduce the complexity of information systems required to operate e-Government solutions and services.

The USPTO EA provides established standards that guide the design and management of systems and set a strategic direction for critical enterprise-wide technologies and solutions by using the Enterprise IT Roadmap. This planning methodology helps to facilitate strategic, tactical, and operational IT planning at the USPTO and to benefit IT project management, through strategic and operational plans for each of the AIS's and the identification of linkages between those plans and the USPTO's strategic IT initiatives, and evolving standards baseline. The Enterprise IT Roadmap consists of four elements: (1) Functional Roadmap; (2) Application Roadmap; (3) Standards Roadmap; and (4) Technology Roadmap. Each of these Roadmap elements highlights the strategic, tactical, and operational planning information for components and initiatives across a five-year, forward looking, planning horizon that focuses on the business process and the customers' perspective. The Enterprise IT Roadmap provides an integrated view of the EA initiatives that are currently being deployed.

Critical EA initiatives that are underway include a high-availability server architecture that uses load balancing to maximize continuity of operations, and an enterprise storage management strategy that provides for optimal use of storage resources via a Storage Area Network (SAN). Leveraging the EA to ensure that critical technology meets IT security, backup and recovery, and distributed computing requirements improves scalability, reliability, and interoperability of OCIO solutions. For example, IT security solutions are critical to protecting the confidentiality, integrity, and availability of USPTO IT resources. The EA also guides resource decisions to reduce costs and improve business area performance by documenting the complexity of the enterprise, identifying improvement opportunities, and options for consolidating the architecture.

Objective 3.1 Develop an enterprise architecture program and standards based on industry best practices, compliant with the Federal Enterprise Architecture.

The Federal Enterprise Architecture (FEA) is being developed by the Office of Management and Budget (OMB) using interrelated "reference models" designed to facilitate cross-agency analysis and the identification of duplicative investments, gaps, and opportunities for collaboration within and across federal agencies. These "reference models" are the Performance Reference Model (PRM), Business Reference Model (BRM), Data Reference Model (DRM), Service Component Reference Model (SRM), and the Technical Reference Model (TRM). While all federal agencies regardless of size and resources are encouraged to use the FEA, the intent of the FEA is to illustrate "best practices" currently employed in several federal agencies and private corporations.

The OCIO will use the EA for evolving information systems and developing new systems that optimize mission value. The goals accomplished will be reflected in logical and/or business perspectives (e.g., mission, business functions, information flows, and systems environments) and in technical terms (e.g., software, hardware, and communications). The EA advancements also include a sequencing plan for transitioning from the baseline environment to the target environment. These EA blueprints form a master plan to assist in optimizing the interdependencies and interrelationships among USPTO's business operations and the underlying IT that supports operations. The Enterprise IT Roadmap should also provide insight into how well the USPTO is transitioning toward the target environment from functional, application, standards, and technology aspects of its IT systems.

The tasks that support this objective are as follows:

Tasks for Objective 3.1	Status
- Integrate Enterprise IT Roadmap into EA planning process. Incorporate the Functional, Application, Standards, and Technology Roadmaps into UEA development and maintenance.	*Ongoing*
- Update and revalidate the Technical Reference Model (TRM) to ensure that it's current, including new EA concepts, procedures, and policies.	*Ongoing*
- Establish an Architecture Migration Review and Compliance capability to facilitate EA migration, review candidate projects, and assess project alignment with the EA.	*In Process*
- Develop standard configurations for operating systems and operations management software to enable homogeneity for ease of maintenance, upgrades, and patching.	*In Process*
- Develop SRM that links the USPTO's EA to the FEA from a service perspective.	*Planned*
- Develop BRM and PRM that link the USPTO's EA to the FEA from a business and performance perspective.	*Planned*

Tasks for Objective 3.1	Status
- Formulate a strategy to develop and implement the High-Level Architecture Technical Standards and Guidelines (HLA TSG).	*Planned*
- Develop and implement a solutions methodology that complies with the USPTO's EA.	*Planned*
- Develop solutions architecture processes using best practices from industry and standards.	*Planned*

Objective 3.2 Provide maximum availability of computer systems to examiners, attorneys, the public, and other patent and trademark offices in the event of an outage [E-Government 5].

The OCIO will provide high-availability services and continuity of operations solutions for the USPTO's mission critical systems. The importance of business continuity is amplified with the transition to the electronic processing of all patent and trademark applications. This transition is expected to be completed in FY 2005. With the migration to electronic processing of all USPTO applications, high availability of systems will be critical for minimizing the productivity impacts in the event of any serious system or data center failures.

The OCIO proposes utilizing all information technology assets and resources in its daily operations as opposed to preparing a disaster recovery site (cold site) that would only be used in the event of a failure at the primary site. The USPTO would have full utilization of all of its assets while having full confidence in its recovery capabilities in the event of a system failure or a catastrophic event affecting the data center facilities. From the business and financial perspectives, this provides a much lower cost of operations while allowing the immediate recognition and correction of problems.

The tasks that support this objective are as follows:

Tasks for Objective 3.2	Status
- Develop high-availability architecture and plans for office, trademark, and patent systems. Deploy server clusters for office, trademark systems and patent systems.	*In Process*
- Migrate office automation, trademark, and patent data to Storage Area Network (SAN). SANs are an emerging technology for improving access to and management of mass storage resources.	*In Process*
- Prototype data replication capability. The USPTO data replication proof of concept will demonstrate the disaster recovery capabilities that will be leveraged by the OCIO to deliver a high availability infrastructure.	*In Process*

Objective 3.3 Enhance and simplify the technology infrastructure to support business operations in an electronic government environment (i.e., simplify and unify).

The USPTO e-Government strategy has been progressing with the deployment of several business-enhancing capabilities, including searching, office action creation, application capture, and electronic filing in a secure environment. Progress to date has made it possible for trademark business processes to be completed on-line by customers from start to finish. Achieving these goals requires a comprehensive e-Government strategy as outlined in Goal 1 and an EA framework that enables sharing of information and services across heterogeneous environments.

To provide enhanced support for e-Government initiatives, J2EE (Java 2 Enterprise Edition) framework will serve as a building block for USPTO's EA. The OCIO may also add .NET technology as part of the USPTO EA. The J2EE and .NET frameworks will provide USPTO a flexible, extensible, and interoperable component-based application architecture. These platforms will allow applications to communicate transparently through all layers of the application model and across different platforms, and allow for growth and adaptation with minimal effect across multi-tier computing environment. With the move toward J2EE as the Enterprise Application framework, the USPTO will focus on its reuse strategy on J2EE. The objective is to provide infrastructure of consolidated servers and development tools that will be highly scalable, readily available, and promotes reuse of EA environment for all new software development efforts. At the same time, a key goal of USPTO's EA is to leverage legacy system investments while facilitating the transformation to the target EA with this approach.

The OCIO has also placed high priority in ensuring that the e-Government initiative is based on a secure environment. The IT security program at USPTO is focused on applying the "Defense in Depth" (DiD) strategy. DiD involves a multi-layered and tiered approach where many security components are combined in a comprehensive and enterprise wide security architecture. The process will establish a synergistic information assurance effect whose sum is greater assurance than is possible from individual security components.

The transition toward DiD will involve the coordinated deployment of management, operational, and technical controls that focus on people, technology, and operations. Accordingly, the OCIO supports implementation of common service systems for USPTO PKI, email, remote access, enterprise-wide logon, firewalls, routers, intrusion detection, perimeter services, and other USPTO infrastructure capabilities. These systems will help to mitigate many internal and external threats by providing around-the-clock real-time monitoring, detection, and response to intrusion. The deployment will be comprehensive to cover a spectrum of platforms used at USPTO.

The tasks that support this objective are as follows:

Tasks for Objective 3.3	Status
- Complete Business Impact Analysis (BIA) of business continuity program to determine application priorities, Recovery Point Objectives (RPOs), and Recovery Time Objectives (RTOs).	*Completed*
- Complete evaluation of .Net platform. The OCIO envisions incorporating .NET Enterprise Application Integration (EAI) strategies enterprise-wide in the future.	*In Process*
- Implement comprehensive IT security architecture that is compliant with Federal guidelines and addresses IT security vulnerabilities at USPTO.	*In-Process*
- Develop IDE migration plan to consolidate development environments, configure, and deploy an Integrated Development Environment (IDE).	*In Process*
- Develop "simplify and unify" plan for its technology infrastructure by reducing complexity to ensure adequate availability and performance. This includes server consolidation, storage consolidation, virtual private network consolidation, database instance consolidation, and firewall design simplification.	*In Process*
- Prototype Linux cluster servers and blade servers to reduce costs and improve security for network infrastructure utility functions, mail routing, newsgroup services, and web services.	*In Process*
- Develop business continuity and relocation plans for the data center and OCIO data lab. A secondary project and associated team will be utilized to develop the necessary disaster recovery plan and then to implement the infrastructure to support disaster recovery capabilities for critical applications at the USPTO.	*In Process*
- Develop a service-oriented architecture that addresses the complexity and the number of systems for standard interfaces.	*In Process*
- Incorporate existing and planned EA practices to focus on database and application interface integration. Exploit the capabilities of WebSphere EAI suite and the J2EE architecture to integrate database and application interface based on reuse approach.	*Planned*

Objective 3.4 Develop interoperability standards for data exchange with international partners, dissemination of intellectual property information, and system-to-system communications.

The establishment of an international agreement for the electronic filing of patent applications under Patent Cooperation Treaty (PCT) (PCT AI Part 7 Annex F) and the adoption of the Madrid Protocol for Trademarks represent commitments from the USPTO to adopt and adapt to agreed-upon XML resources. These agreements also represent the need to implement certain aspects of XML in specified ways to ensure maximum interoperability of documents and Trademark data files. Providing an effective procedure to create, exchange, and maintain XML resources is essential to developing interoperability standards for data exchange.

The tasks that support this objective are as follows:

Tasks for Objective 3.4	Status
- Develop interoperability standards that will facilitate data exchange with international patent organizations within the USPTO's EA environment and the FEA.	*In Process*
- Collaborate with the Business Areas to ensure that the interoperability standards will support the business requirements of electronic processing.	*In Process*
- Establish an effective procedure to create, exchange, and maintain XML resources (i.e., DTDs, schemas, style sheets, and document instances).	*In Process*

STRATEGIC GOAL 4: CONTINUOUSLY IMPROVE THE DELIVERY OF OCIO INFORMATION PRODUCTS AND SERVICES TO MEET USPTO BUSINESS OBJECTIVES.

Strategic Goal 4 - Objectives
4.1. Provide high quality products and services for CIS customers that differentiate the USPTO and OCIO from other organizations.
4.2. Strategically manage our OCIO workforce to meet the challenges of today and tomorrow.
4.3. Improve USPTO capital planning and investment practices to ensure the delivery of business value from information technology investments.
4.4. Streamline LCM practices for improved performance.
4.5. Enhance and maintain USPTO's automated information systems.

The USPTO's 21st Century Strategic Plan emphasizes the importance of enhancing quality through process and workforce improvements. A capable OCIO workforce is a critical element of this effort and must be retained, recruited, trained, and rewarded to ably support the USPTO. Strengthening IT capital planning and investment practices is another important facet of the OCIO's continuous improvement efforts to not only meet established federal mandates, but to derive maximum business value from all IT investments. Streamlining Life Cycle Management (LCM) practices offers a valuable opportunity for improved performance. Finally, enhancing and maintaining USPTO's automation information systems is another facet in our delivery of information products and services to meet USPTO's business objectives.

Objective 4.1 Provide high quality products and services for CIS customers that differentiate the USPTO and OCIO from other organizations.

The OCIO will focus on refining the capability to meet customer business needs for patent and trademark information by providing greater and more effective access to the USPTO's information dissemination products and services. The underlying approaches to improve the information dissemination products and services include: allowing customers enhanced electronic access to relevant USPTO information and services, focusing resources and functions to provide higher-quality services to customers, supporting a USPTO-wide communications and change management process with our customers, and continuing to partner with external entities to provide efficient and effective customer service.

This shift is occurring to respond to market forces driving change to the OCIO's business model, resulting in the following actions:

- **Leverage the Web to deliver CIS products and services**: Leverage the USPTO's web infrastructure to make Customer Information Services (CIS) products and services more accessible to the general public. Ensure that CIS' services (e.g. assignment recordation, document ordering, customer assistance, etc.) are accessible 24x7 through the USPTO's Website and web portal. Ensure that CIS' products (e.g. document copies, "published" documents, bulk data, etc.) can be downloaded by customers on-demand.

- **Streamline CIS product and service delivery processes:** Automate existing manual processes or eliminate unnecessary information dissemination functions. Consolidate duplicate information dissemination services functions to provide centralized, higher-quality

services to customers. Transfer "non-core" functions to other USPTO business areas where applicable.

- **Focus on the customer**: Create detailed understanding of the CIS Customer Groups (e.g. general public, attorneys, data resellers, etc.) – to allow the OCIO to deliver products/services to these customer groups effectively across multiple channels (e.g. USPTO portal/Website, public search facilities, Patent and Trademark Depository Libraries, via the 1-800#, etc.). Continue to support USPTO 21st Century Plan changes that will affect information dissemination products and services. Facilitate close communication internally and with external customer groups as these products and services evolve.

- **Continue to support partnerships and international programs**: Continue to support Trilateral and WIPO IT projects – and the Patent and Trademark Depository Library (PTDL) program. Increase emphasis toward service center model, broadening the scope of the traditional depository library program to support the independent inventors and outreach programs.

The tasks that support this objective are as follows:

Tasks for Objective 4.1	**Status**
Leverage the Web to deliver CIS products and services	
- Develop a strategy for USPTO customers to conduct business online for the fulfillment of information service requests for product ordering and electronic recordation transactions.	*In Process*
- Support programs to allow access to IFW in Public / Private PAIR and over TriNet to allow for easier download and/or electronic ordering of documents.	*In Process*
- Improve ability for Customers to submit/record Assignments for Patents and Trademarks online using Electronic Trademark Assignment System (eTAS) and Electronic Patent Assignment System (ePAS).	*In Process*
- Provide better customer assistance online and customer complaint management on-line through improved on-line postings, better directions for online ordering / contacting office and improved issue management / resolution management capabilities.	*Planned*
Streamline CIS product and service delivery processes	
- Develop and publish CIS strategic plan that highlights how the products and services are being distinguished from other organizations, outlines a streamlined information dissemination strategy – and creates a phased implementation plan for the strategy.	*In Process*
– Leverage IFW in Office of Public Records (OPR) for quicker file location, more automated document production and enhanced document output capabilities (e.g. CD output).	*In Process*

Tasks for Objective 4.1	Status
- Consolidate / Transfer duplicate CIS functional areas: Order Fulfillment operations, CIS Call Center Operations, Search Facilities and Paper distribution/ storage facilities.	*In Process*
– Consolidate / Refine Office of Electronic Information Products (OEIP) product line based on customer usage / value to the customer: re-assess product pricing based on dissemination cost changes; simplify product line; transfer/automate production processes.	*Planned*
Focus on the customer	
- Conduct survey of current Customer Information Services (CIS) operations and customer satisfaction.	*Completed*
– Conduct and review customer satisfaction surveys to identify USPTO Website and call center strengths and weaknesses.	*In Process*
- Leverage technologies to improve the USPTO Contact Center to create a single point of contact for customers for accessing CIS services. Develop plans and implement call center technologies to provide improved customer assistance capabilities via the USPTO 1-800 number.	*In Process*
- Establish a CIS Program Management Office (PMO) to coordinate customer change management processes for CIS.	*In Process*
Continue to support partnerships and international programs	
- Continue support for and enhance the PTDL Program to improve public access to patent & trademark information.	*In Process*
- Coordinate OCIO input to the Office for Legislative and International Affairs (OLIA) for Trilateral IT projects and WIPO IT systems documentation. Continue participation in Trilateral and WIPO technical working groups.	*In Process*

Objective 4.2 Strategically manage our OCIO workforce to meet the challenges of today and tomorrow.

The USPTO's ability to leverage information technology to meet its business commitments rests not only on the OCIO's ability to recruit and retain qualified workers, but also on its ability to establish an inviting career path and a positive, energized work environment. The OCIO will strategically manage IT human capital to meet current and future business objectives by employing effective workforce planning and creative approaches to recruitment, retention, development, and succession planning.

The OCIO will determine critical organizational roles to fully support the mission of the USPTO, analyze potential competency and skill gaps, and develop plans to fill these gaps. The OCIO's human capital plan addresses the development of a skilled workforce. The USPTO will work toward attracting new talent, as well as providing a desirable work environment, thus promoting retention. Employee retention problems may exist for numerous reasons including federal salary limitations, quality of work environment, increased workload, too few skilled workers to balance

the workload, and lack of adequate employee recognition. The OCIO will address these challenges through effective management, increased employee accountability, and more emphasis on rewards and recognition.

The development of OCIO employees is further enhanced by the initiatives from the OCIO Training Council and the Enterprise Training Division (ETD) within Office of Human resources. Through the collective knowledge of the OCIO Training Council and the ETD, the OCIO supports the development of a strategically aligned FY 2004 training plan that addresses the three training areas of USPTO, supports economies of scale, and minimizes the risk of duplication. The three training areas are (1) critical technical training; (2) management/leadership training, and (3) project management training and certification. The OCIO Training Council will implement the following practices which results in more effective management of IT resources:

- Enlist executive-level champions to ensure that training strategies are incorporated into corporate decision-making and aligned with USPTO business goals.
- Involve critical stakeholders, such as senior management, business unit managers, subject matter experts, workforce development staff and end-users in planning IT training.
- Address skill gaps and future skill needs as well as new technologies as part of the planning process.

The OCIO Training Council members from each of the Executive areas, will work to:

- Ensure consistent training policies and practices throughout the OCIO.
- Support competency-based and strategically aligned training.
- Establish link between training and performance measurement results.

The OCIO Training Council members are specifically accountable for:

- Knowledge of projects within their Executive Area offices.
- Awareness of Immediate Skill Requirements.
- Consultation/Coordination with Executive Area Directors/Managers.
- Knowledge of Executive Area budget balanced/potential shortfalls.

The OCIO Training Council provides input to the ETD for preparation of the enterprise-wide training plan to support organizational and individual effectiveness, improved performance, and sustained growth of employees. Through collaboration with the OCIO Training Council and OCIO offices, the ETD provides guidance and consultation to business unit management officials in identifying competencies and training needs. In support of this effort, the OCIO Training Council, OCIO offices, and ETD perform the following responsibilities:

- Reviews and analyzes the strategic and performance goals outlined in the USPTO's 21st Century Strategic Plan to determine where training could enhance goal achievement.
- Identifies the enterprise-wide competencies required to support goal achievement.

- Identifies training needed to fill gaps and competencies in the current or projected workforce required to meet the Agency's strategic goals and assess to what degree the current and/or projected workforce possesses these competencies.
- Develops training courses and/or programs that address technical needs.
- Assures that training needs for a particular fiscal year are funded in order of priority.

The OCIO and ETD also compiles an annual listing of the OCIO major training needs that includes (1) specific types of training and developmental activities needed in priority order; (2) specific groups to receive training; and (3) training and developmental activities that are planned for the year listed in priority order.

Additionally, the OCIO will lead efforts in the federal community by participating in the Workforce and Human Capital for IT Committee and by actively contributing to government-wide initiatives. Strategies will be developed to address skill gaps, attract new talent, and provide a desirable work environment for IT employees. The OCIO will seek efficient enterprise training solutions utilizing a technical training approach (e.g., e-learning) to achieve efficiencies in development and training activities.

The tasks that support this objective are as follows:

Tasks for Objective 4.2	**Status**
- OCIO and ETD will compile an annual listing of the OCIO major training needs.	*Completed*
- Conduct skills baseline and determine skills management strategies.	*Completed*
- IT Security Training, role based training will be implemented beginning in FY 2004.	*In Process*
- Develop, pilot, and rollout results-based rewards and recognition.	*In Process*
- Project Management Training/Certification – Training for this area will be covered in three following steps.	
1. *Managing Information Technology Series*: Online overview of project management. Includes the following: USPTO IT Project Management Overview (Enterprise Architecture); Project Planning; Project Scheduling/Control and Evaluation; and Project Management and IT Security.	*Planned*
2. *Course Development by Subject Matter Experts*: Office of Technical Plans and Policy (OTPP) Project Management Team. Includes the following: The "Tool Box"; Overview of Project Lifecycle; Automated Project Management System (APMS) Overview; Specific tools and techniques to Get Your Job Done; and Links to templates/standards; Key contacts – Who You Need to Know.	*Planned*
3. *Project Manager Certification*: Seven course curriculum and Exam Prep. Courses are as follows: Managing Projects; Leadership and Management; Schedule/Cost Control; Risk Management; Quality of Project Managers; Contracts for Project Managers; Project Management Applications; and Project Management Professional Examination Prep.	*Planned*

Objective 4.3 Improve USPTO capital planning and investment practices to ensure the delivery of business value from information technology investments.

The OCIO will lead the USPTO in establishing IT Capital Planning and Investment Control (CPIC) practices to ensure that planning, selection, execution, and evaluation activities are in compliance with federal IT investment requirements and conducted in an open and well-documented manner. In this role, the OCIO also develops and maintains the SITP and the Operational IT Plan. The OCIO will also act as a resource to the business units, guiding and fulfilling their requests for IT products. At the same time, the OCIO will maintain the framework on which all USPTO technology functions, positioning itself as an efficient and effective service provider as measured by the OCIO balanced scorecard.

The OCIO will continue to refine its IT CPIC process to support USPTO's mission and transition to the target enterprise architecture. As part of the IT CPIC process, we will formalize an IT investment review structure to ensure that IT investment planning, selection, execution, and evaluation activities of the USPTO are in compliance with federal IT investment requirements (e.g., Clinger-Cohen Act) and conducted in a comprehensive manner with appropriate documentation. A well-defined CPIC model will result in a more formal review process tightly coupled with the USPTO budget and performance review process. The review process will be based on an objective criterion to identify and prioritize IT investments. Another aim behind the investment review structure is to fully engage the user communities in development of IT investment business cases for proposed IT investments. User responsibility and accountability for IT investment documentation and justification is a precursor to the effective investment management of IT resources at the USPTO.

The tasks that support this objective are as follows:

Tasks for Objective 4.3	Status
- Revise the OCIO CPIC Process Guide.	*Completed*
- Revise OCIO SITP format and validate with business areas.	*Completed*
- Develop and update OCIO Operational IT Plan.	*Completed*
- Update OCIO SITP content and validate with business areas.	*Completed*
- Develop OCIO balanced scorecard.	*Completed*
- Develop plan for improving program management capabilities.	*In Process*
- Integrate Roadmaps and Release Management into planning initiatives.	*In Process*

Objective 4.4 Streamline Life Cycle Management practices for improved performance.

The USPTO has institutionalized a mature and successful Life Cycle Management (LCM) practices for AIS's. The automated information system Life Cycle Process Tailoring Technical Standard and Guideline (TSG), has significantly contributed to the success and flexibility of the LCM. The needs of all USPTO IT projects during the life cycle of the project vary by the type of project, including system development, maintenance, and infrastructure projects. This TSG

assists the Project Manager and the Software Development Manager (SDM) in determining the type of AIS project that they are managing. The current LCM approach offers a baseline recommendation of Technical Review Board (TRB) reviews and deliverables to development, by project type. This recommendation can be used as is, or as a basis for further tailoring. The current LCM processes include formal mechanisms throughout the AIS life cycle to monitor interim results of IT projects and tailor the life cycle accordingly. The USPTO has had success with the current LCM in delivering quality applications when promised.

As the development environment evolves, the LCM will be enhanced to ensure that lifecycle management process continues to produce applications that fulfill the business needs of USPTO. The LCM will be further developed to accommodate the need for multiple development approaches, support the increasingly diverse nature of technical solutions and infrastructure environments, and maintain an environment for stronger collaborative working relationships with OCIO's customers and partners as they take on a more active role in the solution engineering process.

The improvement of LCM involves two approaches. First, the LCM will be streamlined for immediate results, and second, the USPTO will be transitioned to advanced LCM practices. The OCIO will work to streamline the LCM policies, procedures, roles, and responsibilities governing the initiation, definition, design, development, deployment, operation, maintenance, management, and retirement of AIS. The LCM objectives are as follows:

- Reduce the amount of documentation.
- Increase the value of artifacts.
- Increase the quality of artifacts.
- Ensure artifact development as an inherent part of the development, not an after-the-fact recording activity.
- Increase the ease of maintenance of artifacts.
- Shorten the development lifecycle.
- Increase the level of tool support for the development process.
- Decrease the burden of the formal review and approval processes on the project.
- Increase the value of the reviews and approvals.
- Provide greater flexibility in methods to accommodate different project types.
- Migrate from paper based system documents to electronic models.

The strategic direction that will allow the USPTO to implement advanced LCM processes are based on adoption of proven development methods and toolsets, such as object-oriented design, Rational Unified Process (RUP), Unified Modeling Language (UML) notation, XML, and iterative development and model-drive architecture methods. This strategic direction and engineering practices are founded on strategic enterprise architectures, service oriented architectures, component-based development, asset-based development, iterative development within release management, portfolio and operations insight, model-driven development, and integrated toolsets. In addition, there will be continuous improvement of processes and standards compared to one-time approach to process definition. Industry methodologies,

standards, and best practices will also be leveraged. The LCM updates will be aligned with the strategic direction and priorities of the USPTO and the OCIO, ensuring achievability of specified practices within the realities of USPTO environments and workforce capabilities.

The OCIO focus is to extend LCM to provide project managers and system development managers with a system life cycle that best fits the particular needs for application development. The LCM phases may be tailored to accommodate the unique aspects of an AIS or infrastructure system project as long as the resulting approach will deliver a quality system. Ultimately, the revised LCM approach will deliver quality systems that: 1) meet or exceed customer expectations, 2) work effectively and efficiently within the current and planned information technology infrastructure, and 3) are inexpensive to maintain and cost-effective to enhance.

The tasks that support this objective are as follows:

Tasks for Objective 4.4	Status
Phase I	
- Pilot selected aspects of strategies.	*Ongoing*
- Capture lessons learned from pilots.	*Ongoing*
- Assess current LCM and organizational change readiness.	*In Process*
- Define strategic direction for advanced lifecycle management and solution engineering practices.	*In Process*
- Develop initial strategies for advanced practices.	*In Process*
- Streamline existing LCM processes and documentation.	*Planned*
- Implementation of streamlined LCM practices and of strategic direction practices.	*Planned*
- Identify implementation partners and internal champions of change.	*Planned*
Phase II	
- Streamline existing LCM processes and documents.	*Planned*
- Strengthen LCM disciplines.	*Planned*
- Implement Enabling tools infrastructure.	*Planned*
- Develop workforce competencies.	*Planned*
- Implement advanced strategic practices.	*Planned*
- Evaluate results.	*Planned*
Phase III	
- Refine strategies and practices.	*Planned*
- Mature all practices.	*Planned*

Tasks for Objective 4.4	Status
- Formulate strategies for implementation of the solutions architecture within LCM having optimal value in system design and development that will support the LCM requirements. The architecture should help define the technologies necessary to support the USPTO mission; transitional processes for implementing new technologies in response to changing information needs (legacy systems), and support a more robust LCM process.	*In Process*
- Modify the LCM to align with the updated EA.	*In Process*

Objective 4.5 Enhance and maintain USPTO's automated information systems.

The USPTO has been focusing on replacing the heterogeneous collection of incompatible hardware and software systems with a standards-based open system infrastructure. New systems and capabilities are being deployed based on client-server architecture with reliance on PTOnet to deliver needed services. While USPTO's computing environment provides many business benefits, there are many new challenges in managing it.

For the USPTO to successfully manage its IT assets and support both its ongoing and new business processes, USPTO must move toward adopting an enterprise view to manage these critically important assets. Effectively managing the USPTO's computing environment encompasses several functions ranging from application change management to configuration change management. Key aspects of the computing environment include release management, functional roadmaps, and transition to new technologies.

A release, as opposed to a baseline, is a series of new or modified capabilities delivered to a customer at a point in time. A release may be viewed as an installation of the product baseline or its current configuration identification (baseline + changes). A release usually denotes a major functional change and may include several versions. Release management consists of screening and assigning requirements changes or problem fixes to a specific distribution of the product. USPTO will incorporate release management into IT planning to ensure that system changes occur in a more consistent and regular manner. The OCIO will be able to anticipate changes in systems in a more timely and predictable manner, and determine the duration of the actual effort to complete the modifications.

In addition, the Enterprise Information Technology Roadmap (Enterprise IT Roadmap) is a critical part of managing the IT projects at USPTO. The Enterprise IT Roadmap presents the strategic and operational plans for each of the agency's more than 100 AIS's. This document identifies the relationship between the aforementioned plans and the USPTO's business initiatives, technology initiatives, and evolving standards inventory. The Enterprise IT Roadmap consists of five elements: (1) Functional Roadmap; (2) Application Roadmap; (3) Standards Roadmap; (4) Technology Roadmap; and (5) Integrated Roadmap:

- Functional Roadmap – Identifies business strategic initiatives defined by the 21st Century Strategic Plan and further developed by the Action Papers. This roadmap provides planned, strategic business and functional capability enhancements.
- Application Roadmap – Documents an AIS near- and long-term release plans. This roadmap will help OCIO transition toward an improved application architecture, inclusive of the service oriented architecture to support functional development.
- Standards Roadmap – Illustrates the evolution of the standards baseline at the USPTO based on the Technology Reference Model supplemented with information provided by the vendor community regarding their long-term support strategies.
- Technology Roadmap – Identified the major strategic IT initiatives set forth by the USPTO Strategic IT Plan and further developed through interviews with key OCIO managers and staff;
- Integrated Roadmap – Brings together the four previous roadmaps illustrating how the AIS's support functional requirements, change as technology and standards evolve, and track the progress of USPTO applications. This roadmap provides a vertical, integrated view of releases for each AIS incorporating Functional, Application, Standards, and Technology planning information.

Each of these Roadmap elements highlights the strategic, tactical, and operational planning information for components and initiatives across a five-year, forward looking, planning horizon that focuses on the business process and the customers' perspective.

The formulation of release management approach and inclusion of the Enterprise IT Roadmap will enable USPTO to strategically and effectively evolve current systems to incorporate new technologies. These two methodologies will provide the long-term planning needs to ensure that the AIS's meet the needs of the customer with adequate support from the vendors.

The OCIO will coordinate closely with the Business Area customers to ensure that asset management, especially for systems that are in operational/maintenance mode, continue to meet the needs of the end-users. This coordination will consist of procedures that will be developed from an enterprise perspective in order to effectively manage the integration of the AIS's, both legacy systems and new technologies. This approach will also help to identify areas in which enhancements or upgrades are necessary, and provide a clear methodology for employing system changes or replacements.

The tasks that support this objective are as follows:

Tasks for Objective 4.5	Status
- Enhance or replace the existing inventory management systems	*Ongoing*
- Incorporate the Enterprise IT Roadmap into existing system development/enhancement planning.	*In Process*
- Define the high-level information requirements and system interfaces for	*In Process*

Tasks for Objective 4.5	Status
managing USPTO's distributed IT assets.	
- Formulate an approach for release management.	*Planned*
- Develop a comprehensive strategy for change management.	*Planned*
- Develop a comprehensive approach to system-oriented architecture.	*Planned*
- Establish a methodology for migration strategy and standards.	*Planned*

CONCLUSION

The next five years will be a period of significant technological advancement in the economy, challenging the USPTO to deliver services that meet the evolving business needs of its customers. The Strategic Information Technology Plan provides the broad roadmap for meeting that challenge via specific information technology activities from fiscal years 2004 to 2009. By the end of this period, the OCIO's internal and external customers will interface with a quality-focused, highly productive, responsive organization meeting and exceeding customer requirements through continuous progress.

In the near-term, FY 2005 and FY 2006, the OCIO will continue to develop and deploy e-Government applications including Patent File Wrapper, Trademark Trial and Appeal Board Information System, and the First Action System for Trademarks, Madrid Protocol, reducing reliance upon, and in some cases eliminating, inefficient paper processes. The OCIO will continue to fully develop the USPTO Enterprise Architecture planning documents, improve Life Cycle Management methodologies, strengthen IT security, and implement key initiatives within the target architecture, to simplify and achieve greater efficiencies.

During FY 2007 and FY 2008, the OCIO will further implement and enhance e-Government applications with a focus on improved internal operations and systems integration. Over this period, the OCIO will have implemented much of the infrastructure changes dictated by the Federal Enterprise Architecture, particularly relating to data storage and the high availability architecture.

In the long-term, FY 2009 and FY 2010, the OCIO will fully integrate e-Government applications with internal business systems, while eliminating redundancy and overlap, and maximizing system and business process efficiency. The protection of U.S. intellectual property data will also be fully realized with a robust business continuity program.

These long-term pursuits will result in an integrated customer-facing government-to-business and government-to-citizen e-Government approach that brings the USPTO closer to its customers and stakeholders. Like any long term strategic plan, the OCIO SITP will need to be reviewed and enhanced as results are achieved and new challenges are presented.

APPENDIX – ACRONYMS

Acronym	Meaning
AIS	Automated Information System
APMS	Automated Project Management System
ART	Application Routing Tool
BIA	Business Impact Analysis
BPAI	Board of Patent Appeals and Interferences Information System
BPAIIS	Board of Patent Appeals and Interferences Information System
BRM	Business Reference Model
C&A	Certification and Accreditation
CD	Compact Disc
CFS	Core Financial System
CIS	Customer Information Services
CPIC	Capital Planning and Investment Control
CY	Calendar Year
DHCP	Dynamic Host Configuration Protocol
DiD	Defense in Depth
DOC	Department of Commerce
DRM	Data Reference Model
DTDs	Document Type Definitions
EA	Enterprise Architecture
EAI	Enterprise Application Integration
e-Commerce	Electronic Commerce
eDAN	Electronic Desktop Application Navigator
EDS	Enterprise Directory Services
EDW	Enterprise Data Warehouse
EFS	Electronic Filing System
e-Gov	Electronic Government
e-learning	Electronic Learning
ePAS	Electronic Patent Assignment System on the Web
EPO	European Patent Office
eTAS	Electronic Trademark Assignment System on the Web
ETD	Enterprise Training Division
FAST	First Action System for Trademarks
FEA	Federal Enterprise Architecture
FISMA	Federal Information Security Management Act
GSA	Government Services Administration
HLA	High Level Architecture
IDE	Integrated Development Environment
IFW	Image File Wrapper
IPA	Internet Purchasing Application

APPENDIX – ACRONYMS

Acronym	Meaning
IT	Information Technology
J2EE	Java 2 Enterprise Edition
JPO	Japan Patent Office
LCM	Life Cycle Management
MiTEAS	Madrid International Trademark Electronic Application Submission
OCIO	Office of the Chief Information Officer
OEIP	Office of Electronic Information Products
OLIA	Office for Legislative and International Affairs
OMB	Office of Management and Budget
OPR	Office of Public Records
OTPP	Office of Technical Plans and Policy
PAIR	Patent Application Information Retrieval system
PALM	Patent Application Location Monitoring system
PCT	Patent Cooperation Treaty
PD	Procurement Desktop
PDF	Portable Document Format
PEAI	Patent Enterprise Access Integration
PFW	Patent File Wrapper
PGPub	Pre-Grant Publication
PKI	Public Key Infrastructure
PMA	President's Management Agenda
PMO	Program Management Office
PRM	Performance Reference Model
PSIPS	Public Site for Issued and Published Sequences
PSTN	Public Switched Telephone Network
PTDL	Patent and Trademark Depository Library
RAM	Revenue Accounting and Management System
RPO	Recovery Point Objective
RTO	Recovery Time Objective
RUP	Rational Unified Process
SAN	Storage Area Network
SBA	Small Business Administration
SDM	System Development Manager
SEAS	Secure Environment Access Solution

APPENDIX – ACRONYMS

Acronym	Meaning
SITP	Strategic Information Technology Plan
SRM	Service Reference Model
TRB	Technical Review Board
TriNet	Trilateral Network
TRM	Technical Reference Model
TSG	Technology Standard and Guideline
TTAB	Trademark Trial and Appeal Board
TTABIS	Trademark Trial and Appeal Board Information System
TW@H	Trademark Work-at-Home
UEA	USPTO Enterprise Architecture
UML	Unified Modeling Language
USPTO	United States Patent and Trademark Office
VPN	Virtual Private Network
WAN	Wide Area Network
WIPO	World Intellectual Property Organization
WWW	World Wide Web
XML	eXtensible Markup Language